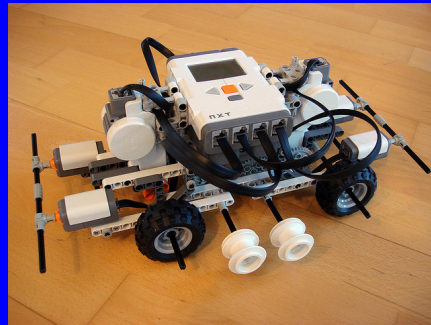# Robotics

Challenge #1

"Straight Movement"

Introduction

Building off of the Lego tutorial "Straight Move" you are to complete the following challenge. You must first make sure your "Bot" is built properly and then start your programing. As a team, you must complete the challenge in a timely manner. Follow the criteria below to get started.

Standards Met

Standard: 1. Creativity and Innovation:
Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
Standard: 3. Research and Information Fluency:
Students apply digital tools to gather, evaluate, and use information.
Standard: 4. Critical Thinking, Problem Solving, and Decision Making:
Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources.
Standard: 6. Technology Operations and Concepts:
Students demonstrate a sound understanding of technology concepts, systems, and operations.

Criteria

- Create a program for your "Bot" that runs the following motions:
    a. Start at starting point
    b. Forward 10'
    c. Stop for at least 1 second
    d. Reverse for 7'
    e. Stop for at least 1 second
    f. Forward for 3.5'
    g. Stop for at least 1 second
    h. Return to starting position
- A course will be set up in the classroom for you to test your program and evaluate your design.

- You cannot use any other additions to your basic "Bot"
- You must have the teacher grade your project when you are ready to run your "FINAL" test.
- You must keep a daily journal that includes the following:
  a. What you have completed during your class time.
  b. What positives you have encountered.
  c. What setbacks you have encountered.
  d. What adjustments you have made to improve your "Bot" outcome.

Grading

- Completed Program   25 pts
- Final Test Run (-5 pts for every inch away from starting point)   60 pts
- Journal Entries   15 pts
                                    Total   100 pts

STEM Focus:

Science- unit conversions
Engineering- computer programming, equations
Math- unit conversions, equations, geometric shapes, measuring